



RF MEASUREMENT REPORT

FCC ID: I88EE3300-00

Applicant: Zyxel Communications Corporation

Product: Dual-Band Wireless BE7200 2.5G Ethernet Gateway

Model No.: EE3300-00

Brand Name: ZYXEL

FCC Classification: Digital Transmission System (DTS)

FCC Rule Part(s): Part 15 Subpart C (Section 15.247)

Result: Complies

Received Date: 2025-08-04

Test Date: 2025-08-07 ~ 2025-09-08

Reviewed By:

Kevin Guo

Kevin Guo

Approved By:

Robin Wu

Robin Wu



The test results relate only to the samples tested.

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report. Testing was performed in accordance with the applicable measurement procedures. The test results reported herein apply only to the specific item(s) tested.

The test report shall not be reproduced except in full without the written approval of MRT Technology (Suzhou) Co., Ltd.



Revision History

Report No.	Version	Description	Issue Date	Note
R25S1006089-U201	V01	Initial Report	2025-09-30	Valid

CONTENTS

Description	Page
1. General Information	5
1.1. Applicant	5
1.2. Manufacturer	5
1.3. Testing Facility	5
1.4. Product Information	6
1.5. Radio Specification under Test	6
1.6. Working Frequencies	7
1.7. Antenna Details	7
2. Test Configuration	8
2.1. Test Mode	8
2.2. Test System Connection Diagram	9
2.3. Test Software	9
2.4. Applied Standards	9
2.5. Test Environment Condition	9
3. Antenna Requirements	10
4. Measuring Instrument	11
5. Decision Rules and Measurement Uncertainty	12
5.1. Decision Rules	12
5.2. Measurement Uncertainty	12
6. Test Result	13
6.1. Summary	13
6.2. 6 dB Bandwidth Measurement	14
6.2.1. Test Limit	14
6.2.2. Test Procedure	14
6.2.3. Test Setting	14
6.2.4. Test Setup	14
6.2.5. Test Result	14
6.3. Output Power Measurement	15
6.3.1. Test Limit	15
6.3.2. Test Procedure	15
6.3.3. Test Setting	15
6.3.4. Test Setup	15
6.3.5. Test Result	15
6.4. Power Spectral Density Measurement	16
6.4.1. Test Limit	16

6.4.2.	Test Procedure	16
6.4.3.	Test Setting	16
6.4.4.	Test Setup	16
6.4.5.	Test Result	17
6.5.	Conducted Band Edge and Out-of-Band Emissions Measurement	18
6.5.1.	Test Limit	18
6.5.2.	Test Procedure	18
6.5.3.	Test Setting	18
6.5.4.	Test Setup	18
6.5.5.	Test Result	19
6.6.	Radiated Spurious Emissions Measurement.....	20
6.6.1.	Test Limit	20
6.6.2.	Test Procedure	20
6.6.3.	Test Setting	20
6.6.4.	Test Setup	22
6.6.5.	Test Result	23
6.7.	Radiated Restricted Band Edge Measurement	24
6.7.1.	Test Limit	24
6.7.2.	Test Procedure	25
6.7.3.	Test Setting	25
6.7.4.	Test Setup	26
6.7.5.	Test Result	26
6.8.	AC Conducted Emissions Measurement	27
6.8.1.	Test Limit	27
6.8.2.	Test Setup	27
6.8.3.	Test Result	27
Appendix A - Test Result.....		28
A.1	Duty Cycle Test Result	28
A.2	6 dB Bandwidth Test Result	30
A.3	Output Power Test Result	34
A.4	Power Spectral Density Test Result	35
A.5	Conducted Band Edge and Out-of-Band Emissions Test Result.....	48
A.6	Radiated Spurious Emissions Test Result	97
A.7	Radiated Restricted Band Edge Test Result.....	106
A.8	AC Conducted Emissions Test Result	182
Appendix B - Test Setup Photograph		184
Appendix C - EUT Photograph		185

1. General Information

1.1. Applicant

Zykel Communications Corporation

No. 2 Industry East RD. IX, Hsinchu Science Park, Hsinchu 30075, Taiwan, R.O.C.

1.2. Manufacturer

Zyxel Communications Corporation

No. 2 Industry East RD. IX, Hsinchu Science Park, Hsinchu 30075, Taiwan, R.O.C.

1.3. Testing Facility

☒	Test Site - MRT Suzhou Laboratory
	Laboratory Location (Suzhou - Wuzhong) D8 Building, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China
	Laboratory Location (Suzhou - SIP) 4b Building, Liando U Valley, No.200 Xingpu Rd., Shengpu Town, Suzhou Industrial Park, China
	Laboratory Location (Suzhou - Wujiang) Building 1, No.1 Xingdong Road, Wujiang, Suzhou, Jiangsu, People's Republic of China
	Laboratory Accreditations
	A2LA: 3628.01 FCC: CN1166
	CNAS: L10551 ISED: CN0001
☐	Test Site - MRT Shenzhen Laboratory
	Laboratory Location (Shenzhen) 1G, Building A, Junxiangda Building, Zhongshanyuan Road West, Nanshan District, Shenzhen, China
	Laboratory Accreditations
	A2LA: 3628.02 FCC: CN1284
	CNAS: L10551 ISED: CN0105
☐	Test Site - MRT Taiwan Laboratory
	Laboratory Location (Taiwan) No. 38, Fuxing 2nd Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)
	Laboratory Accreditations
	TAF: 3261 FCC: 291082, TW3261
	ISED: TW3261

1.4. Product Information

Product Name	Dual-Band Wireless BE7200 2.5G Ethernet Gateway
Model No.	EE3300-00
Brand Name	ZYXEL
EUT Identification No.	20250804Sample#03 (Conducted) 20250804Sample#01 (Radiated)
Wi-Fi Specification	802.11a/b/g/n/ac/ax/be
Antenna Information	Refer to section 1.7
Power Type	AC/DC Adapter
Accessory(ies)	
AC/DC Adapter #1	Model: MAUS-1202003605 Input: 100-240 V ~ 50-60 Hz 1.0 A Output: 12.0 VDC 2.0 A
AC/DC Adapter #2	Model: FC030A05-120025U Input: 100-240 V ~ 50-60 Hz 1.2 A Output: 12.0 VDC 2.5 A 30.0 W
Note 1: The information of the EUT (Equipment Under Test) was provided by the manufacturer. The accuracy, completeness, and validity of the information are solely the responsibility of the manufacturer. Note 2: For this report, we select AC/DC Adapter #2 for testing.	

1.5. Radio Specification under Test

Frequency Range	2400 ~ 2483.5 MHz	
Channel Number	802.11b/g/n-HT20/ax-HE20/be-EHT20: 11 802.11n-HT40/ax-HE40/be-EHT40: 7	
Type of Modulation	802.11b: DSSS 802.11g/n: OFDM 802.11ax/be: OFDMA	
Data Rate	802.11b: 1/2/5.5/11 Mbps 802.11g: 6/9/12/18/24/36/48/54 Mbps 802.11n: up to 600 Mbps 802.11ax: up to 1147.2 Mbps 802.11be: up to 1376 Mbps	
Channel Puncturing Function	☐ Supported	☒ Unsupported
Support RU	☒ Full RU	☐ Partial RU

1.6. Working Frequencies

802.11b/g/n-HT20/ax-HE20/be-EHT20

Channel	Frequency	Channel	Frequency	Channel	Frequency
01	2412 MHz	02	2417 MHz	03	2422 MHz
04	2427 MHz	05	2432 MHz	06	2437 MHz
07	2442 MHz	08	2447 MHz	09	2452 MHz
10	2457 MHz	11	2462 MHz	--	--

802.11n-HT40/ax-HE40/be-EHT40

Channel	Frequency	Channel	Frequency	Channel	Frequency
03	2422 MHz	04	2427 MHz	05	2432 MHz
06	2437 MHz	07	2442 MHz	08	2447 MHz
09	2452 MHz	--	--	--	--

1.7. Antenna Details

Antenna Type	Frequency Band (MHz)	Tx Paths	CDD Directional Gain (dBi)		Beamforming Directional Gain (dBi)
			For Power	For PSD	
PCB Antenna	2400 ~ 2483.5	4	0.68	6.29	6.29
	5150 ~ 5250	5	1.76	8.43	8.43
	5250 ~ 5350	5	1.76	8.43	8.43
	5470 ~ 5725	5	1.83	8.71	8.71
	5725 ~ 5850	5	1.84	8.66	8.66

Notes:

1. The EUT supports Cyclic Delay Diversity (CDD) mode for 802.11a/b/g/n/ac/ax/be.
2. The EUT also supports Beamforming mode for 802.11n/ac/ax/be, not include 802.11a/b/g.
3. All antenna information is provided by the manufacturer.

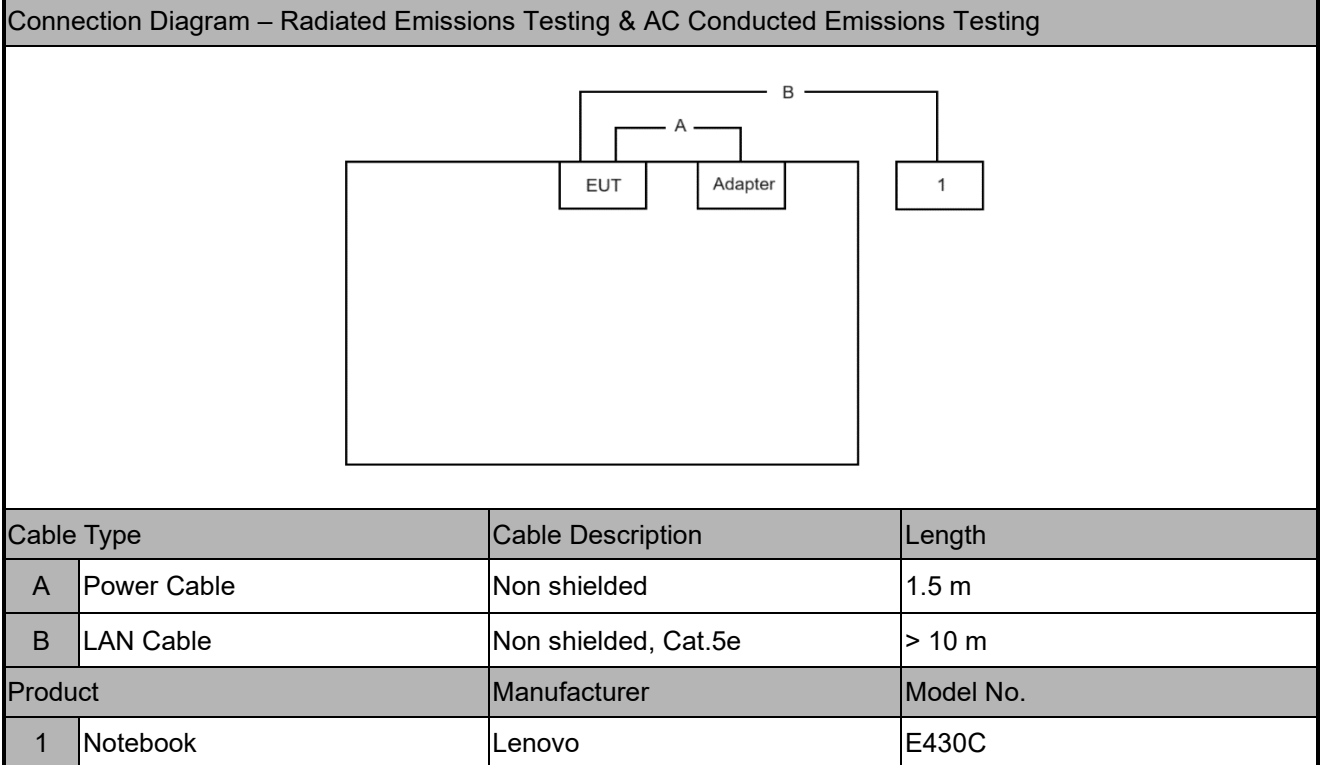
2. Test Configuration

2.1. Test Mode

CDD Mode
Mode 1: Transmit by 802.11b_Nss = 1(1 Mbps)
Mode 2: Transmit by 802.11g_Nss = 1(6 Mbps)
Mode 3: Transmit by 802.11n-HT20_Nss = 1(MCS0)
Mode 4: Transmit by 802.11n-HT40_Nss = 1(MCS0)
Mode 5: Transmit by 802.11be-EHT20_Nss = 1(MCS0)
Mode 6: Transmit by 802.11be-EHT40_Nss = 1(MCS0)
Note 1: 802.11ax and 802.11be have same modulation type and same power parameter declared by the manufacturer, and we have verified that the same power parameter, the power of 802.11ax is slightly less than the power of 802.11be, so all tests were performed based on 802.11be in this report. Note 2: For CDD mode, this device supports 4 Nss and power level is the same of spatial multiplexing. The worst case is Nss=1. Note 3: For Beamforming operation, the manufacturer automatically reduces power based on a factor calculated as the difference between the Beamforming directional gain and the CDD directional power gain. Thus, only the CDD mode was evaluated in this report. Note 4: All modes of operation and data rates were investigated, so all RF test requirements shall be executed at the worst data rate which power is the greatest.

2.2. Test System Connection Diagram

The device was tested per the guidance ANSI C63.10-2020 was used to reference the appropriate EUT setup for radiated emissions testing and AC line conducted emissions testing.



2.3. Test Software

The test utility software used during testing was “QATool” and the version was “0.0.2.103”.

Final power setting please refer to operational description.

2.4. Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC Part 15.247
- KDB 558074 D01 v05r02
- KDB 662911 D01 v02r01
- ANSI C63.10-2020
- ANSI C63.10-2020/Cor1-2023
- ANSI C63.10a-2024

2.5. Test Environment Condition

Ambient Temperature	15 ~ 35 °C
Relative Humidity	20 ~ 75%RH

3. Antenna Requirements

Excerpt from §15.203 of the FCC Rules/Regulations:

“An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.”

- The antenna of the device is **permanently attached**.
- There are no provisions for connection to an external antenna.

Conclusion:

The unit complies with the requirement of §15.203.

4. Measuring Instrument

Instrument	Manufacturer	Model No.	Asset No.	Cali. Interval	Cali. Due Date	Test Site
EMI Test Receiver	R&S	ESR3	MRTSUE07110	1 year	2026-04-19	WJ-AC1
Signal Analyzer	Keysight	N9010B	MRTSUE07285	1 year	2026-02-18	WJ-AC1
TRILOG Broad Band Antenna	Schwarzbeck	VULB 9163	MRTSUE07099	1 year	2026-04-22	WJ-AC1
Horn Antenna	ETS	3117	MRTSUE06257	1 year	2025-09-08 2026-08-13	WJ-AC1
Thermohygrometer	testo	608-H1	MRTSUE11333	1 year	2026-06-16	WJ-AC1
Thermohygrometer	testo	608-H1	MRTSUE11402	1 year	2025-12-01	WJ-AC1
Anechoic Chamber	TDK	WJ-AC1	MRTSUE07115	1 year	2026-05-16	WJ-AC1
EMI Test Receiver	R&S	ESR3	MRTSUE07111	1 year	2026-03-24	WJ-AC2
EXA Signal Analyzer	Keysight	N9010B	MRTSUE07148	1 year	2026-04-26	WJ-AC2
Active Loop Antenna	Schwarzbeck	FMZB 1519-60 D	MRTSUE07076	1 year	2025-11-19	WJ-AC2
Horn Antenna	RFSPIN	DRH18-E	MRTSUE07105	1 year	2026-05-12	WJ-AC2
Horn Antenna	Schwarzbeck	BBHA 9170	MRTSUE06599	1 year	2026-08-18	WJ-AC2
Preamplifier	EMCI	EMC118A45SE	MRTSUE07102	1 year	2026-04-09	WJ-AC2
Preamplifier	EMCI	EMC184045SE	MRTSUE07103	1 year	2026-04-09	WJ-AC2
Thermohygrometer	testo	608-H1	MRTSUE11315	1 year	2026-06-16	WJ-AC2
Thermohygrometer	testo	608-H1	MRTSUE11332	1 year	2026-06-05	WJ-AC2
Anechoic Chamber	TDK	WJ-AC2	MRTSUE07117	1 year	2026-05-12	WJ-AC2
EMI Test Receiver	R&S	ESR3	MRTSUE07112	1 year	2026-04-19	WJ-SR5
Two-Line V-Network	R&S	ENV216	MRTSUE07202	1 year	2026-05-26	WJ-SR5
Thermohygrometer	testo	608-H1	MRTSUE11317	1 year	2026-06-05	WJ-SR5
Shielding Room	TDK	WJ-SR5	MRTSUE07127	N/A	N/A	WJ-SR5
EXA Signal Analyzer	Keysight	N9010B	MRTSUE07147	1 year	2025-11-06	WJ-SR2
USB Power Sensor	Keysight	U2021XA	MRTSUE07143	1 year	2026-03-15	WJ-SR2
Fixed Attenuator	MVE	MVE2213	MRTSUE07311	Note	Note	WJ-SR2
RF Cable	UCwave	UCE500	MRTSUE07337	Note	Note	WJ-SR2
Thermohygrometer	testo	608-H1	MRTSUE11330	1 year	2026-06-05	WJ-SR2
Shielding Room	TDK	WJ-SR2	MRTSUE07124	N/A	N/A	WJ-SR2

Note: The loss of the Attenuator & Cable will be measured before testing.

Software	Version	Function
e3	230711	RE & CE
CONTROLLER CO3000	V 1.03.02	RE Antenna & Turntable
Agilent Power Panel	V 3.9	Power

5. Decision Rules and Measurement Uncertainty

5.1. Decision Rules

The Decision Rule is based on Simple Acceptance in accordance with ISO Guide 98-4: 2012 Clause 8.2.
(Measurement uncertainty is not taken into account when stating conformity with a specified requirement.)

5.2. Measurement Uncertainty

Where relevant, the following test uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k = 2$.

AC Conducted Emission Measurement	
The maximum measurement uncertainty is evaluated as:	
9 kHz ~ 150 kHz:	3.58 dB
150 kHz ~ 30 MHz:	3.20 dB
Radiated Emission Measurement	
The maximum measurement uncertainty is evaluated as:	
Coaxial:	9 kHz ~ 30 MHz: 2.35 dB
Coplanar:	9 kHz ~ 30 MHz: 2.37 dB
Horizontal:	30 MHz ~ 200 MHz: 3.47 dB
	200 MHz ~ 1 GHz: 4.17 dB
	1 GHz ~ 40 GHz: 4.97 dB
Vertical:	30 MHz ~ 200 MHz: 4.07 dB
	200 MHz ~ 1 GHz: 5.28 dB
	1 GHz ~ 40 GHz: 4.84 dB
Spurious Emissions, Conducted	
Measuring Uncertainty for a Level of Confidence of 95% ($U=2 U_c(y)$): 2.5 dB	
Output Power	
Measuring Uncertainty for a Level of Confidence of 95% ($U=2 U_c(y)$): 1.5 dB	
Power Spectrum Density	
Measuring Uncertainty for a Level of Confidence of 95% ($U=2 U_c(y)$): 2.5 dB	
Occupied Bandwidth	
Measuring Uncertainty for a Level of Confidence of 95% ($U=2 U_c(y)$): 3.2%	

6. Test Result

6.1. Summary

FCC Section(s)	Test Description	Test Condition	Verdict
15.247(a)(2)	6 dB Bandwidth	Conducted	Pass
15.247(b)(3)	Output Power		Pass
15.247(e)	Power Spectral Density		Pass
15.247(d)	Band Edge / Out-of-Band Emissions		Pass
15.205 15.209	General Field Strength (Restricted Bands and Radiated Emissions)	Radiated	Pass
15.207	AC Conducted Emissions 150 kHz-30 MHz	Line Conducted	Pass

Notes:

1. The analyzer plots shown in this section were captured using a correction table to account for cable and attenuator losses in the system connecting the EUT to the analyzer across relevant frequencies.
2. For radiated emission tests, every axis (X, Y, Z) was also verified. The test results shown in the following sections represent the worst-case emissions.

6.2. 6 dB Bandwidth Measurement

6.2.1. Test Limit

The minimum 6 dB bandwidth shall be at least 500 kHz.

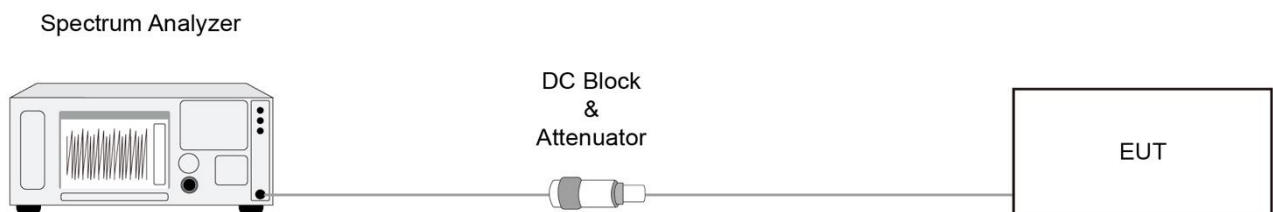
6.2.2. Test Procedure

ANSI C63.10-2020 - Section 11.8

6.2.3. Test Setting

1. The Spectrum's automatic bandwidth measurement capability was used to perform the 6 dB bandwidth measurement. The "X" dB bandwidth parameter was set to $X = 6$. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
2. RBW = 1% to 5% of the OBW, but not less than 100 kHz
3. VBW $\geq 3 \times$ RBW
4. Detector = Peak
5. Trace mode = Max hold
6. Sweep = Auto couple
7. Allow the trace to stabilize

6.2.4. Test Setup



6.2.5. Test Result

Refer to Appendix A.2.

6.3. Output Power Measurement

6.3.1. Test Limit

The maximum output power shall be less 1 Watt (30 dBm).

The conducted output power limit specified in paragraph FCC Part 15.247(b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs FCC Part 15.247(b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

6.3.2. Test Procedure

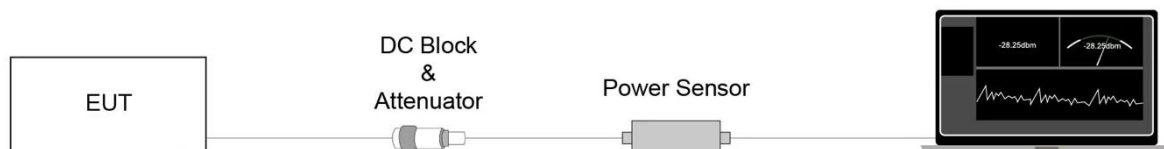
ANSI C63.10-2020 - Section 11.9.2.3.2

6.3.3. Test Setting

Average Power Measurement

Average power measurements were performed only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor. The power meter implemented triggering and gating capabilities which were set up such that power measurements were recorded only during the ON time of the transmitter.

6.3.4. Test Setup



6.3.5. Test Result

Refer to Appendix A.3.

6.4. Power Spectral Density Measurement

6.4.1. Test Limit

The maximum permissible power spectral density is 8 dBm in any 3 kHz band.

The same method of determining the conducted output power shall be used to determine the power spectral density.

6.4.2. Test Procedure

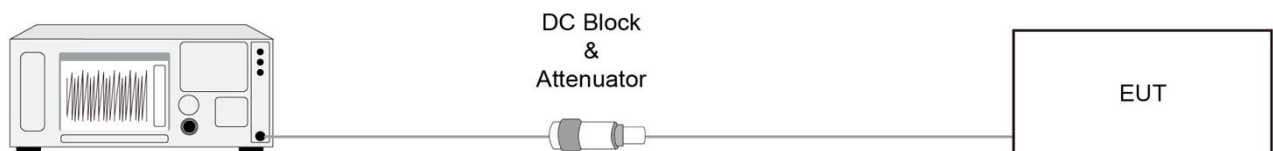
ANSI C63.10-2020 - Section 11.10.5

6.4.3. Test Setting

1. Measure the duty cycle (x) of the transmitter output signal
2. Set instrument center frequency to DTS channel center frequency
3. Span > 1.5 times the OBW
4. RBW = 10 kHz
5. VBW $\geq 3 \times$ RBW
6. Detector = RMS
7. Ensure that the number of measurement points in the sweep $\geq 2 \times$ Span/RBW
8. Sweep time = Auto couple
9. Don't use sweep triggering; Allow sweep to "free run".
10. Employ trace averaging (RMS) mode over a minimum of 100 traces
11. Use the peak marker function to determine the maximum amplitude level
12. If duty cycle < 98%, add $10\log(1/x)$, where x is the duty cycle measured in step 1, to the measured PSD to compute the average PSD during the actual transmission time. If duty cycle $\geq 98\%$, no need to add $10\log(1/x)$.
13. If measured value exceeds requirement specified by regulatory agency, then reduce RBW (but no less than 3 kHz) and repeat (note that this may require zooming in on the emission of interest and reducing the span to meet the minimum measurement point requirement as the RBW is reduced).

6.4.4. Test Setup

Spectrum Analyzer



6.4.5. Test Result

Refer to Appendix A.4.

6.5. Conducted Band Edge and Out-of-Band Emissions Measurement

6.5.1. Test Limit

The limit for out-of-band spurious emissions at the band edge is 30 dB below the fundamental emission level, as determined from the in-band power measurement of the DTS channel performed in a 100 kHz bandwidth per the PSD procedure.

6.5.2. Test Procedure

ANSI C63.10-2020 - Section 11.11

6.5.3. Test Setting

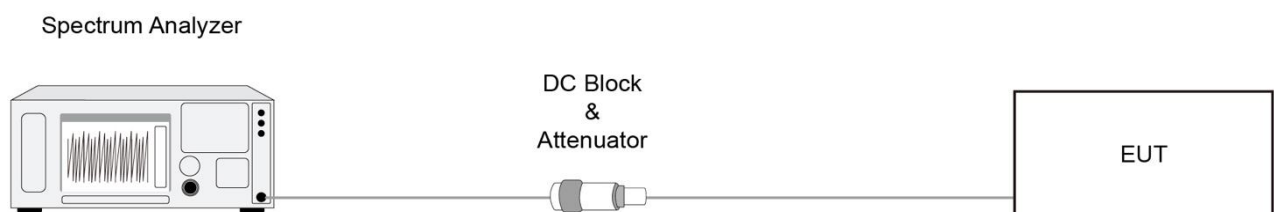
Reference level measurement

1. Set instrument center frequency to DTS channel center frequency
2. Span ≥ 1.5 times the DTS bandwidth
3. RBW = 100 kHz
4. VBW $\geq 3 \times$ RBW
5. Detector = Peak
6. Sweep time = Auto couple
7. Trace mode = Max hold
8. Allow trace to fully stabilize

Emission level measurement

1. Set the center frequency and span to encompass frequency range to be measured
2. RBW = 100 kHz
3. VBW $\geq 3 \times$ RBW
4. Detector = Peak
5. Trace mode = Max hold
6. Sweep time = Auto couple
7. The trace was allowed to stabilize

6.5.4. Test Setup



6.5.5. Test Result

Refer to Appendix A.5.

6.6. Radiated Spurious Emissions Measurement

6.6.1. Test Limit

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Table per Section 15.209.

FCC Part 15 Subpart C Paragraph 15.209		
Frequency [MHz]	Field Strength [μV/m]	Measured Distance [Meters]
0.009 - 0.490	2400/F (kHz)	300
0.490 - 1.705	24000/F (kHz)	30
1.705 - 30	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

6.6.2. Test Procedure

ANSI C63.10-2020 - Section 11.11 & 11.12

ANSI C63.10-2020 - Section 6.3 (General Requirements)

ANSI C63.10-2020 - Section 6.4 (Standard test method below 30 MHz)

ANSI C63.10-2020 - Section 6.5 (Standard test method above 30 MHz to 1 GHz)

ANSI C63.10-2020 - Section 6.6 (Standard test method above 1 GHz)

6.6.3. Test Setting

Table 1 - RBW as a function of frequency

Frequency	RBW
9 ~ 150 kHz	200 ~ 300 Hz
0.15 ~ 30 MHz	9 ~ 10 kHz
30 ~ 1000 MHz	100 ~ 120 kHz
> 1000 MHz	1 MHz

Quasi-Peak Measurements below 1 GHz

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. Span was set greater than 1 MHz
3. RBW = as specified in Table 1
4. $VBW \geq 3 \times RBW$
5. Detector = CISPR quasi-peak
6. Sweep time = Auto couple
7. Trace was allowed to stabilize

Peak Measurements above 1 GHz

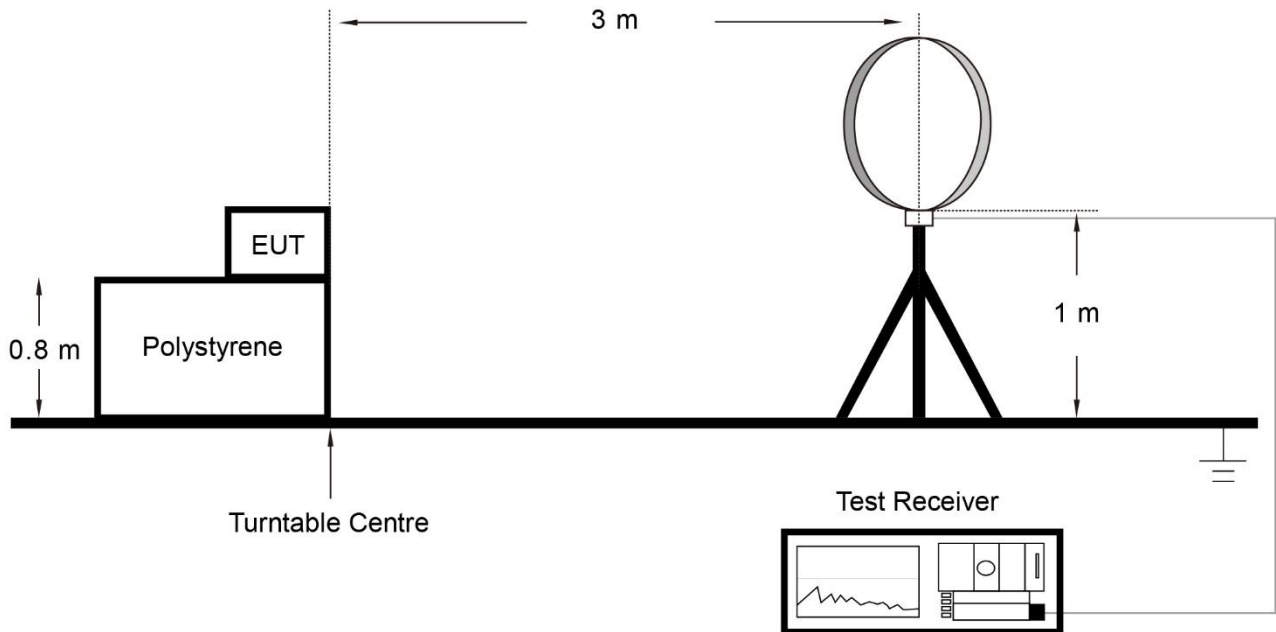
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1 MHz
3. $VBW \geq 3 \times RBW$
4. Detector = Peak
5. Sweep time = Auto couple
6. Trace mode = Max hold
7. Trace was allowed to stabilize

Average Measurements above 1 GHz (Method VB)

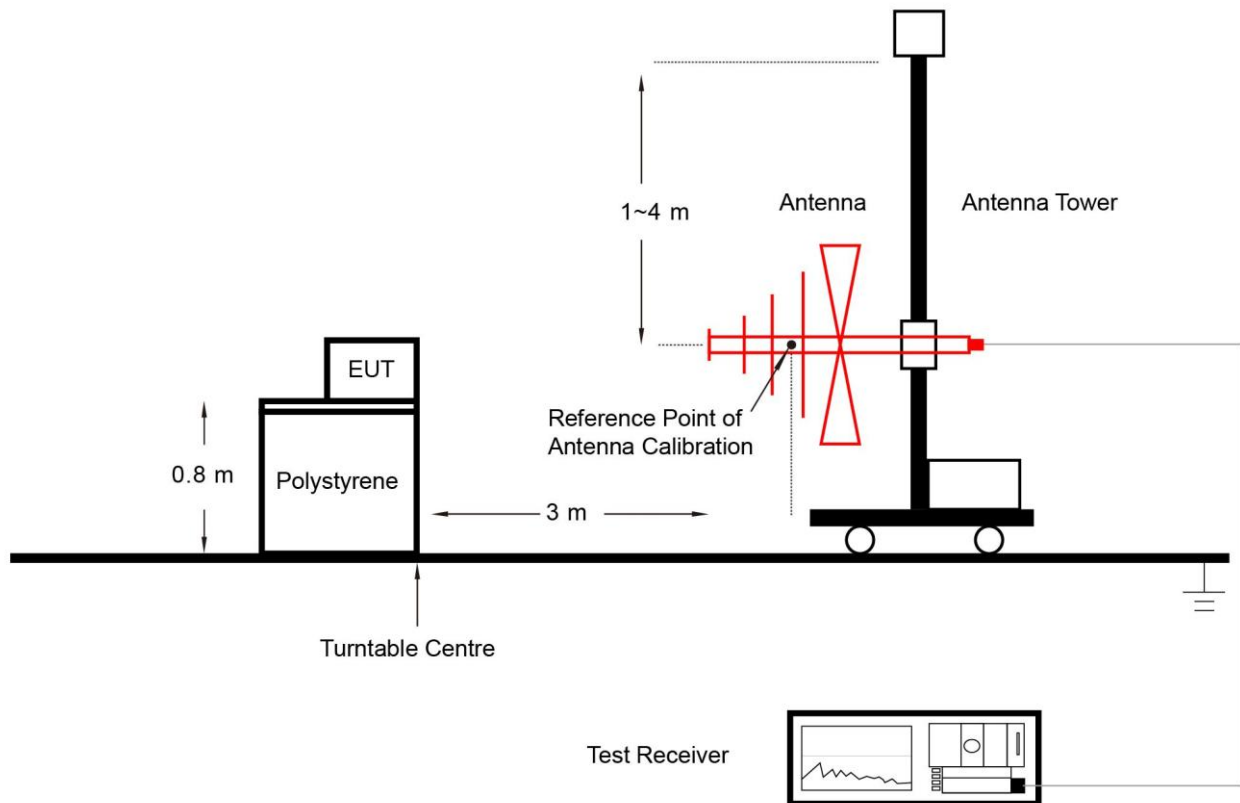
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1 MHz
3. VBW; if the EUT is configured to transmit with duty cycle $\geq 98\%$, set VBW = 10 Hz
If the EUT duty cycle is $< 98\%$, set $VBW \geq 1/T$. T is the minimum transmission duration.
4. As an alternative, the instrument may be set to linear detector mode. Ensure that video filtering is applied in linear voltage domain (rather than in a log or dB domain). Some instruments require linear display mode in order to accomplish this. Others have a setting for Average-VBW Type, which can be set to "Voltage" regardless of the display mode
5. Detector = Peak
6. Sweep time = Auto
7. Trace mode = Max hold
8. Trace was allowed to stabilize

6.6.4. Test Setup

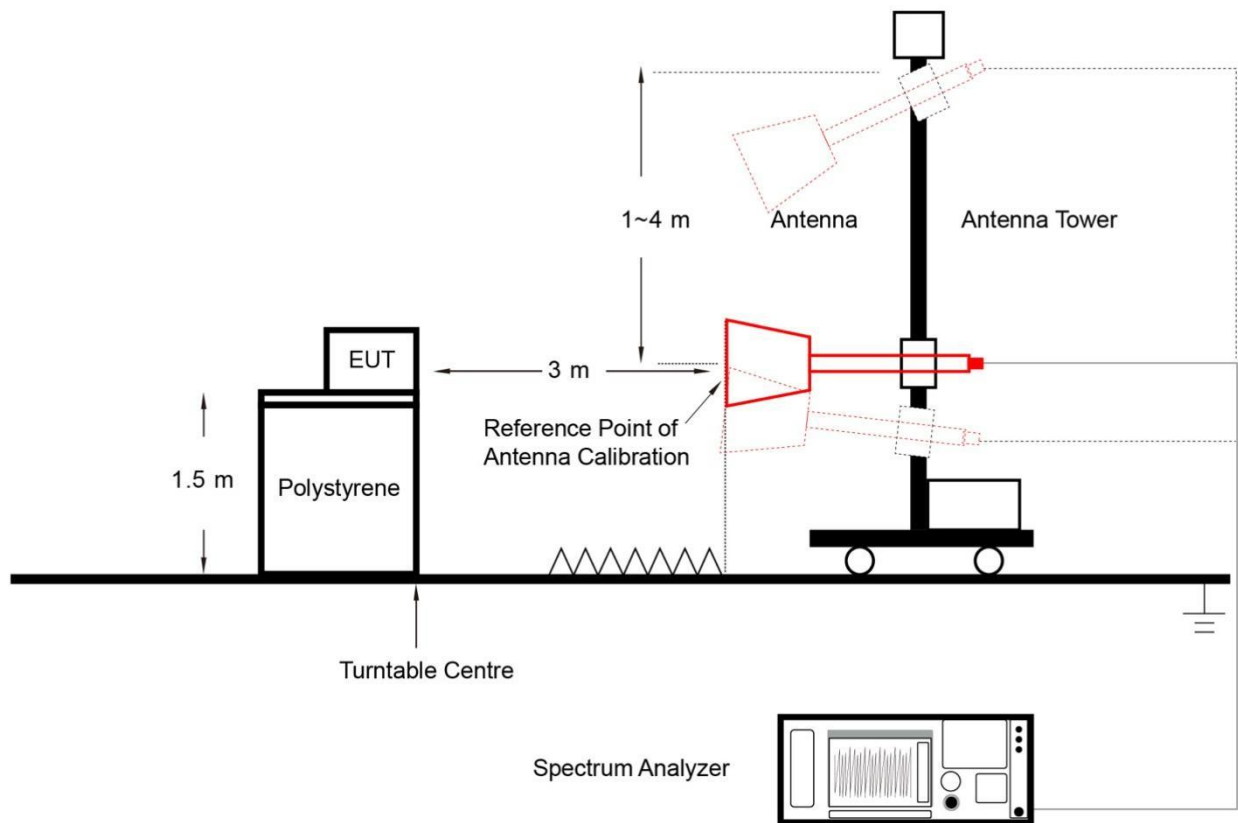
Below 30 MHz Test Setup:



Below 1 GHz Test Setup:



Above 1 GHz Test Setup:



6.6.5. Test Result

Refer to Appendix A.6.

6.7. Radiated Restricted Band Edge Measurement

6.7.1. Test Limit

For 15.205 requirement:

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a) of FCC part 15, must also comply with the radiated emission limits specified in Section 15.209(a).

Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
¹ 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	(²)
13.36 - 13.41	--	--	--

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Table per Section 15.209.

FCC Part 15 Subpart C Paragraph 15.209		
Frequency [MHz]	Field Strength [μ V/m]	Measured Distance [Meters]
0.009 - 0.490	2400/F (kHz)	300
0.490 - 1.705	24000/F (kHz)	30
1.705 - 30	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

6.7.2. Test Procedure

ANSI C63.10-2020 - Section 6.3 & 6.6 & 11.12

6.7.3. Test Setting

Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1 MHz
3. VBW $\geq 3 \times$ RBW
4. Detector = Peak
5. Sweep time = Auto couple
6. Trace mode = Max hold
7. Trace was allowed to stabilize

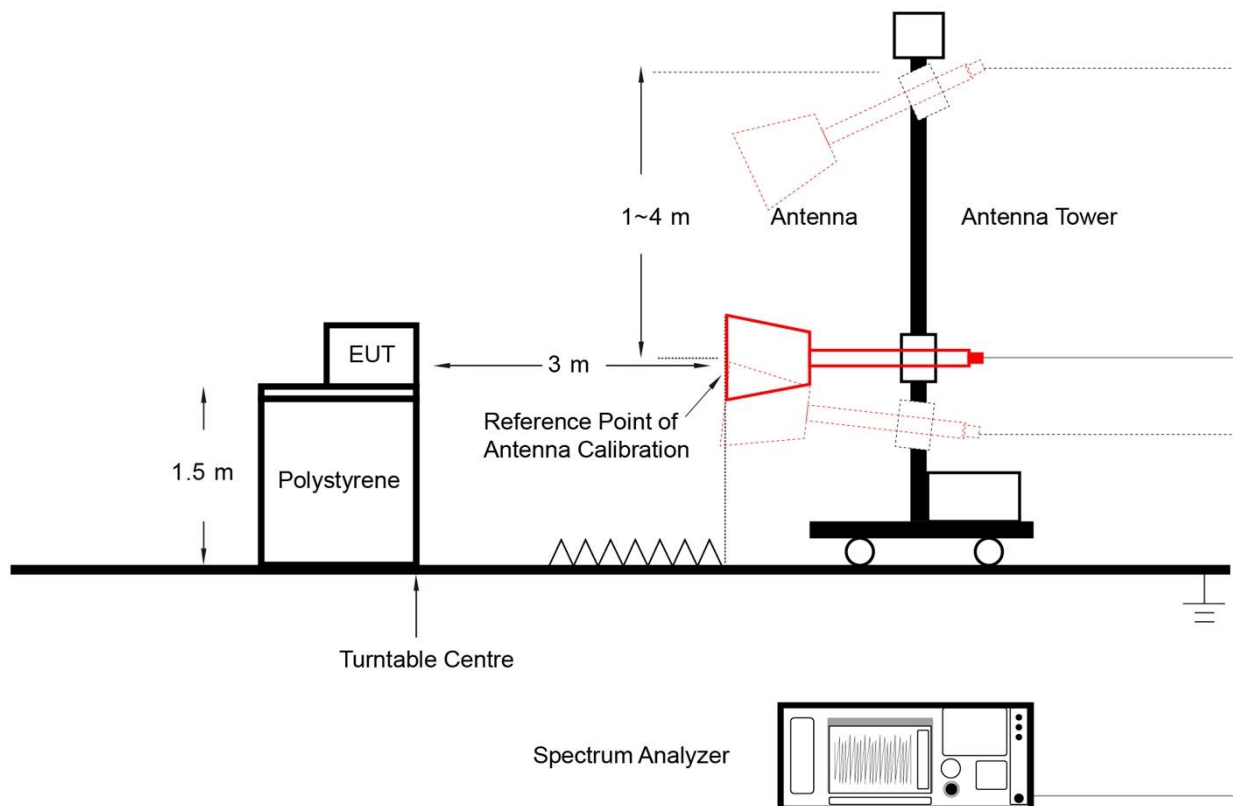
Average Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1 MHz
3. VBW; If the EUT is configured to transmit with duty cycle $\geq 98\%$, set VBW = 10 Hz.

If the EUT duty cycle is $< 98\%$, set VBW $\geq 1/T$. T is the minimum transmission duration.

4. As an alternative, the instrument may be set to linear detector mode. Ensure that video filtering is applied in linear voltage domain (rather than in a log or dB domain). Some instruments require linear display mode in order to accomplish this. Others have a setting for Average-VBW Type, which can be set to "Voltage" regardless of the display mode
5. Detector = Peak
6. Sweep time = Auto
7. Trace mode = Max hold
8. Allow max hold to run for at least 50 times (1/duty cycle) traces

6.7.4. Test Setup



6.7.5. Test Result

Refer to Appendix A.7.

6.8. AC Conducted Emissions Measurement

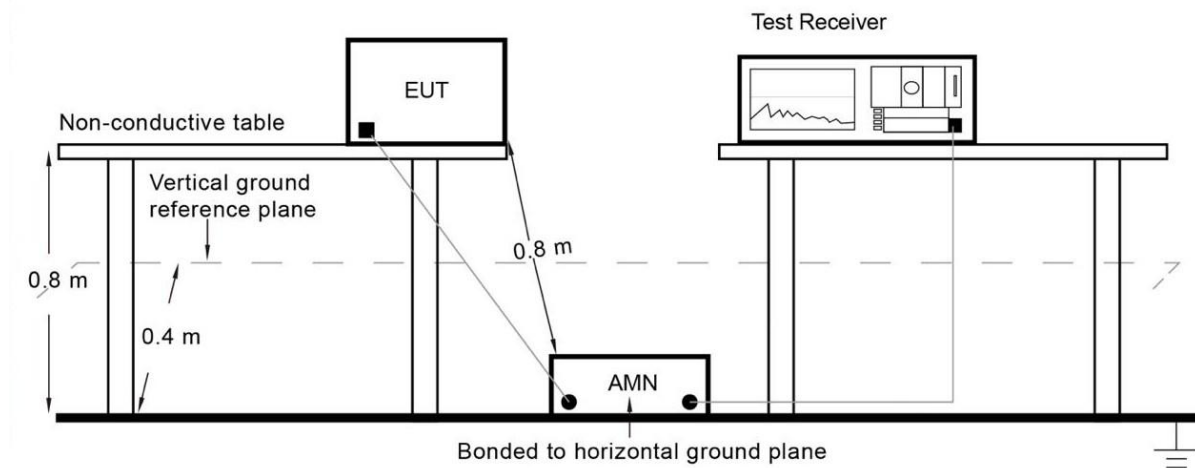
6.8.1. Test Limit

FCC Part 15 Subpart C Paragraph 15.207 Limits		
Frequency (MHz)	QP (dB μ V)	AV (dB μ V)
0.15 - 0.50	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30	60	50

Note 1: The lower limit shall apply at the transition frequencies.

Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

6.8.2. Test Setup



6.8.3. Test Result

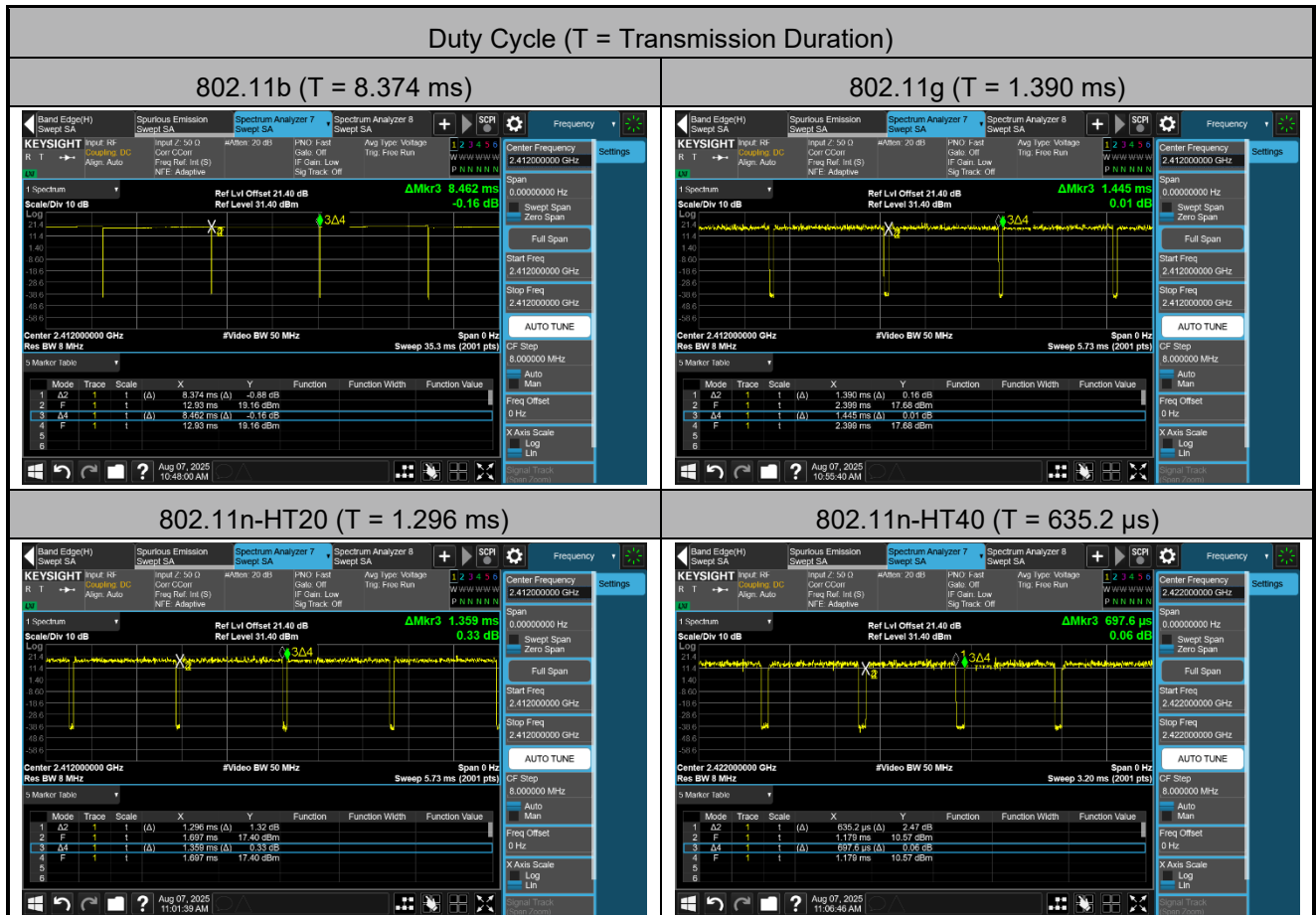
Refer to Appendix A.8.

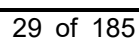
Appendix A - Test Result

A.1 Duty Cycle Test Result

Test Site	WJ-SR2	Test Engineer	Layla Gui
Test Date	2025-08-07		

Test Mode	Duty Cycle
802.11b	98.96%
802.11g	96.19%
802.11n-HT20	95.36%
802.11n-HT40	93.64%
802.11be-EHT20	83.79%
802.11be-EHT40	85.77%





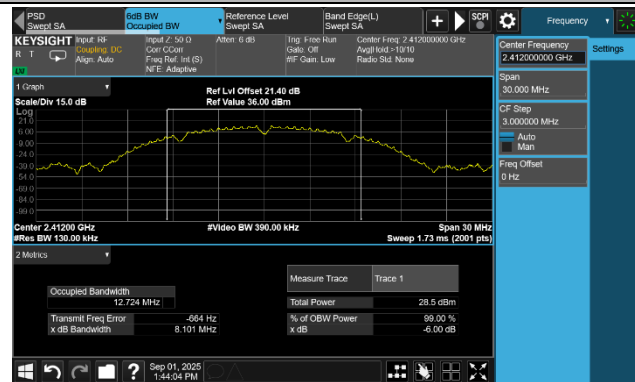
A.2 6 dB Bandwidth Test Result

Test Site	WJ-SR2	Test Engineer	Layla Gui
Test Date	2025-09-01		

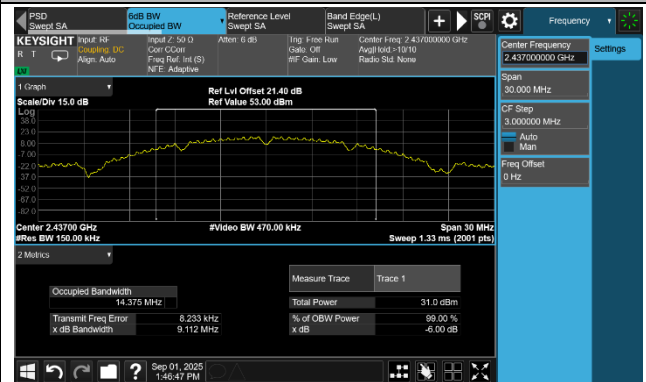
Test Mode	Data Rate / MCS	Channel No.	Frequency (MHz)	6 dB Bandwidth (MHz)	Limit (MHz)
11b	1 Mbps	01	2412	8.101	≥ 0.5
11b	1 Mbps	06	2437	9.112	≥ 0.5
11b	1 Mbps	11	2462	8.099	≥ 0.5
11g	6 Mbps	01	2412	16.31	≥ 0.5
11g	6 Mbps	06	2437	16.23	≥ 0.5
11g	6 Mbps	11	2462	16.31	≥ 0.5
11n-HT20	MCS0	01	2412	17.35	≥ 0.5
11n-HT20	MCS0	06	2437	17.33	≥ 0.5
11n-HT20	MCS0	11	2462	17.21	≥ 0.5
11n-HT40	MCS0	03	2422	35.97	≥ 0.5
11n-HT40	MCS0	06	2437	35.43	≥ 0.5
11n-HT40	MCS0	09	2452	35.52	≥ 0.5
11be-EHT20	MCS0	01	2412	18.92	≥ 0.5
11be-EHT20	MCS0	06	2437	18.90	≥ 0.5
11be-EHT20	MCS0	11	2462	18.69	≥ 0.5
11be-EHT40	MCS0	03	2422	37.21	≥ 0.5
11be-EHT40	MCS0	06	2437	37.28	≥ 0.5
11be-EHT40	MCS0	09	2452	37.59	≥ 0.5

802.11b 6 dB Bandwidth

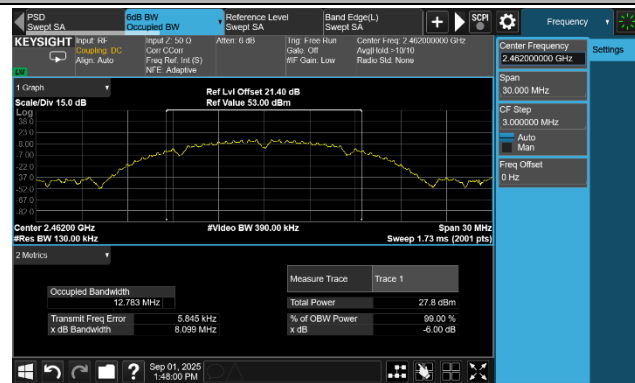
Channel 01 (2412 MHz)



Channel 06 (2437 MHz)

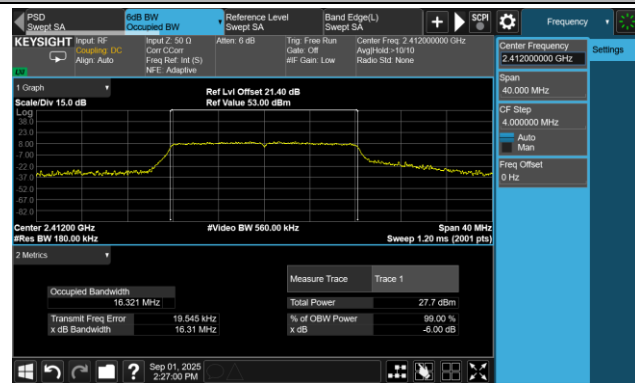


Channel 11 (2462 MHz)

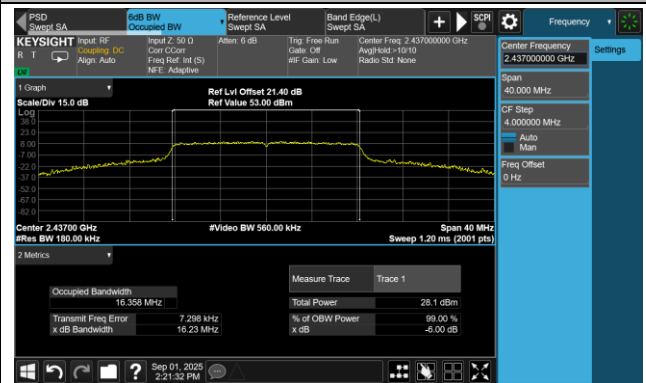


802.11g 6 dB Bandwidth

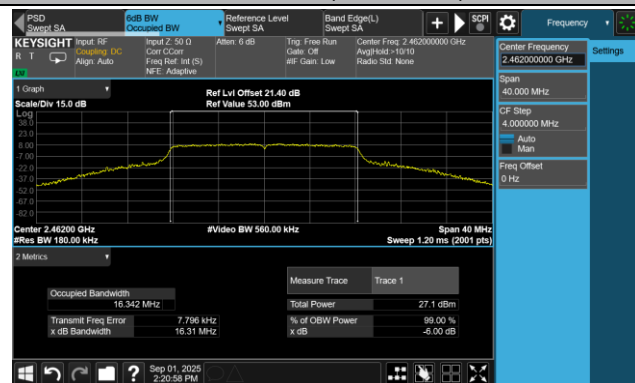
Channel 01 (2412 MHz)



Channel 06 (2437 MHz)

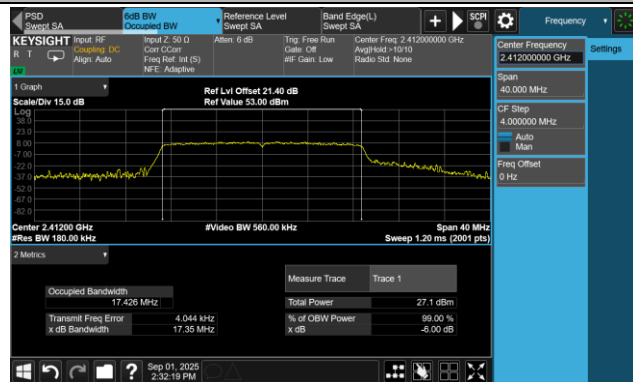


Channel 11 (2462 MHz)

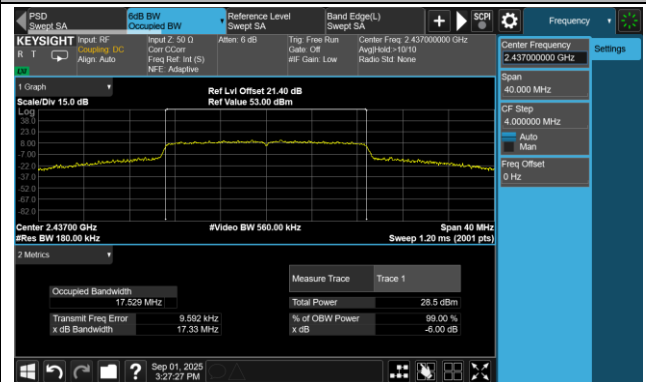


802.11n-HT20 6 dB Bandwidth

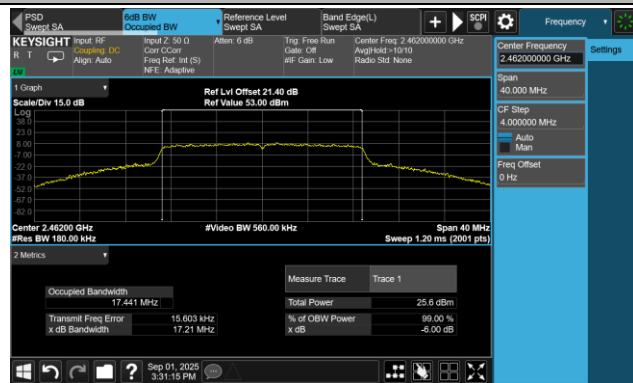
Channel 01 (2412 MHz)



Channel 06 (2437 MHz)

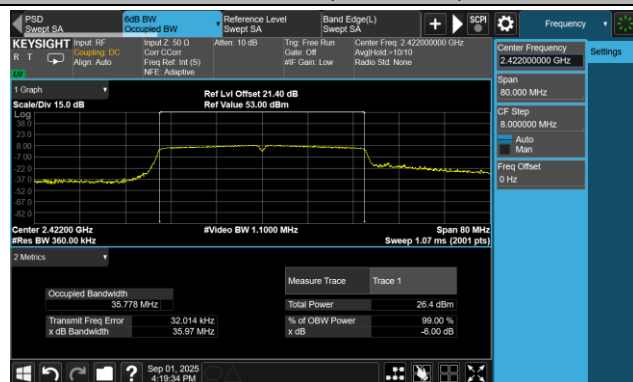


Channel 11 (2462 MHz)

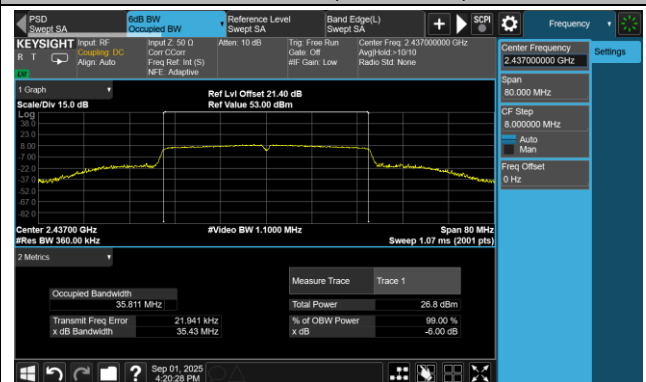


802.11n-HT40 6 dB Bandwidth

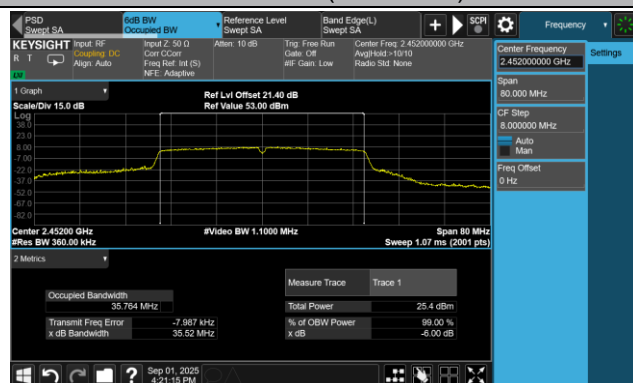
Channel 03 (2422 MHz)



Channel 06 (2437 MHz)

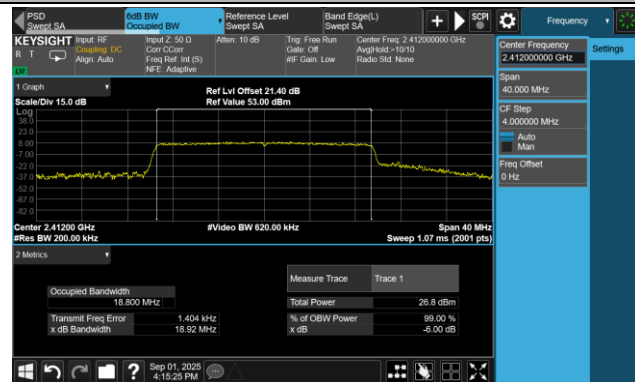


Channel 09 (2452 MHz)

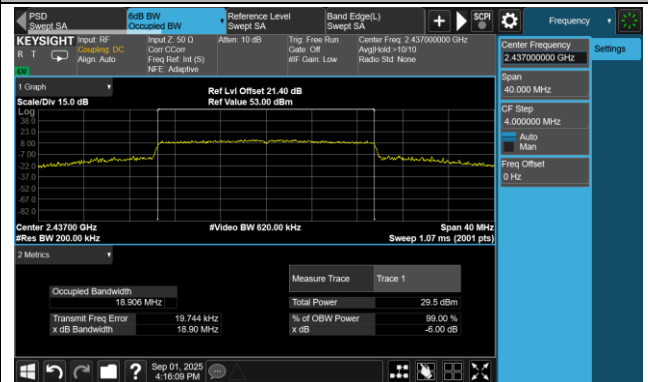


802.1be-EHT20 6 dB Bandwidth

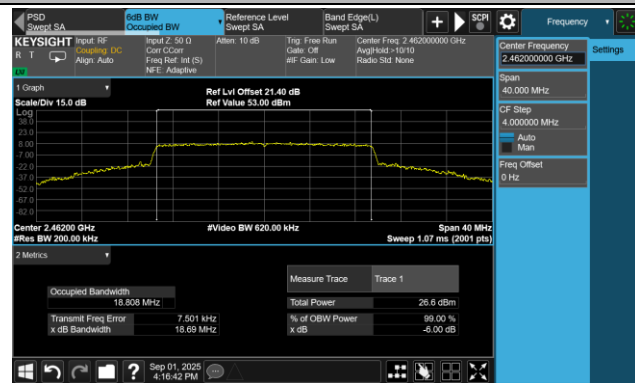
Channel 01 (2412 MHz)



Channel 06 (2437 MHz)

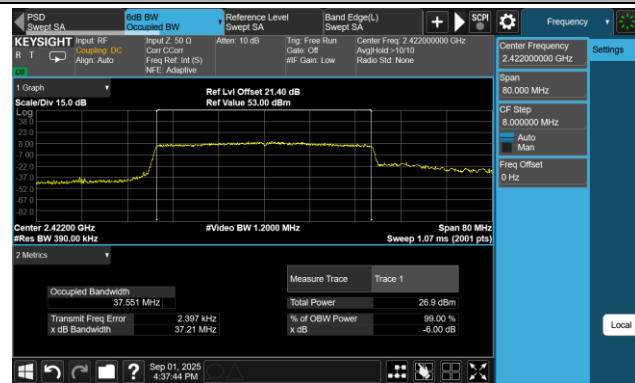


Channel 11 (2462 MHz)

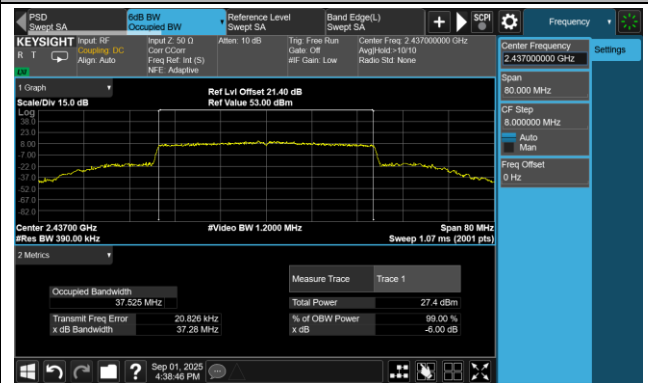


802.11be-EHT40 6 dB Bandwidth

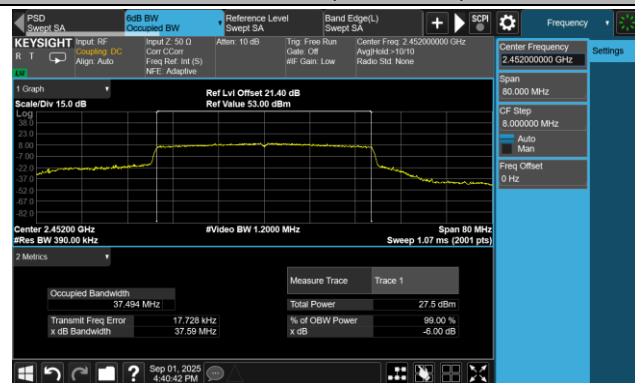
Channel 03 (2422 MHz)



Channel 06 (2437 MHz)



Channel 09 (2452 MHz)



A.3 Output Power Test Result

Test Site	WJ-SR2	Test Engineer	Layla Gui
Test Date	2025-08-07 ~ 2025-09-01	Test Mode	CDD Mode

Test Mode	Data Rate / MCS	Channel No.	Freq. (MHz)	Average Power (dBm)				Total Average Power (dBm)	Limit (dBm)
				Ant 0	Ant 1	Ant 2	Ant 3		
11b	1 Mbps	01	2412	20.50	20.71	20.29	20.41	26.50	≤ 30.00
11b	1 Mbps	06	2437	23.09	23.37	24.01	23.24	29.46	≤ 30.00
11b	1 Mbps	10	2457	20.31	20.67	20.35	20.48	26.48	≤ 30.00
11b	1 Mbps	11	2462	19.53	19.82	19.52	19.65	25.65	≤ 30.00
11g	6 Mbps	01	2412	18.23	18.21	17.98	18.22	24.18	≤ 30.00
11g	6 Mbps	06	2437	20.16	19.92	19.63	19.56	25.84	≤ 30.00
11g	6 Mbps	11	2462	18.01	18.12	17.76	18.08	24.02	≤ 30.00
11n-HT20	MCS0	01	2412	18.02	17.98	17.49	17.67	23.82	≤ 30.00
11n-HT20	MCS0	06	2437	20.10	20.14	19.76	19.58	25.92	≤ 30.00
11n-HT20	MCS0	11	2462	17.90	17.88	17.56	17.98	23.85	≤ 30.00
11n-HT40	MCS0	03	2422	17.74	17.95	17.11	17.61	23.63	≤ 30.00
11n-HT40	MCS0	06	2437	17.97	18.21	17.86	17.73	23.97	≤ 30.00
11n-HT40	MCS0	09	2452	16.83	17.09	17.02	16.99	23.00	≤ 30.00
11be-EHT20	MCS0	01	2412	17.85	17.58	17.39	17.93	23.71	≤ 30.00
11be-EHT20	MCS0	06	2437	20.24	20.29	20.05	20.26	26.23	≤ 30.00
11be-EHT20	MCS0	11	2462	17.49	17.63	17.84	17.72	23.69	≤ 30.00
11be-EHT40	MCS0	03	2422	17.63	17.55	17.03	17.23	23.39	≤ 30.00
11be-EHT40	MCS0	06	2437	17.85	18.06	17.79	17.98	23.94	≤ 30.00
11be-EHT40	MCS0	09	2452	16.75	17.06	16.56	16.91	22.84	≤ 30.00

Note: Total Average Power (dBm) = $10 \times \log \{10^{(\text{Ant 0 Average Power} / 10)} + 10^{(\text{Ant 1 Average Power} / 10)} + 10^{(\text{Ant 2 Average Power} / 10)} + 10^{(\text{Ant 3 Average Power} / 10)}\}$ (dBm).

A.4 Power Spectral Density Test Result

Test Site	WJ-SR2	Test Engineer	Layla Gui
Test Date	2025-08-16 ~ 2025-09-03		

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	PSD (dBm/10 kHz)				Duty Cycle (%)	10 × log (1/x)	Total PSD (dBm/10 kHz)	Limit (dBm/3 kHz)
				Ant 0	Ant 1	Ant 2	Ant 3				
11b	1 Mbps	01	2412	-5.307	-4.299	-5.258	-4.990	98.96	0.05	1.08	≤ 7.71
11b	1 Mbps	06	2437	-3.016	-2.885	-2.894	-2.880	98.96	0.05	3.10	≤ 7.71
11b	1 Mbps	11	2462	-6.294	-6.097	-5.480	-5.593	98.96	0.05	0.17	≤ 7.71
11g	6 Mbps	01	2412	-10.225	-10.314	-10.374	-9.921	96.19	0.17	-4.02	≤ 7.71
11g	6 Mbps	06	2437	-8.893	-8.867	-8.958	-8.457	96.19	0.17	-2.60	≤ 7.71
11g	6 Mbps	11	2462	-10.733	-10.287	-10.479	-10.589	96.19	0.17	-4.33	≤ 7.71
11n-HT20	MCS0	01	2412	-11.149	-10.664	-11.282	-10.998	95.36	0.21	-4.79	≤ 7.71
11n-HT20	MCS0	06	2437	-8.898	-8.950	-9.392	-8.732	95.36	0.21	-2.76	≤ 7.71
11n-HT20	MCS0	11	2462	-10.617	-10.766	-11.022	-10.987	95.36	0.21	-4.62	≤ 7.71
11n-HT40	MCS0	03	2422	-12.828	-12.325	-12.328	-12.531	93.64	0.29	-6.19	≤ 7.71
11n-HT40	MCS0	06	2437	-12.651	-12.348	-11.711	-11.481	93.64	0.29	-5.72	≤ 7.71
11n-HT40	MCS0	09	2452	-13.676	-12.971	-13.565	-13.287	93.64	0.29	-7.06	≤ 7.71
11be-EHT20	MCS0	01	2412	-9.548	-8.869	-9.834	-9.475	83.79	0.77	-2.63	≤ 7.71
11be-EHT20	MCS0	06	2437	-6.559	-6.649	-6.272	-6.515	83.79	0.77	0.29	≤ 7.71
11be-EHT20	MCS0	11	2462	-8.656	-9.109	-9.559	-9.651	83.79	0.77	-2.44	≤ 7.71
11be-EHT40	MCS0	03	2422	-11.773	-11.997	-12.636	-12.115	85.77	0.67	-5.43	≤ 7.71
11be-EHT40	MCS0	06	2437	-10.828	-11.432	-12.101	-11.222	85.77	0.67	-4.68	≤ 7.71
11be-EHT40	MCS0	09	2452	-12.071	-12.837	-13.077	-11.862	85.77	0.67	-5.74	≤ 7.71

Note 1:

Duty Cycle ≥ 98%, Total PSD (dBm/10 kHz) = $10 \times \log \{10^{(\text{Ant 0 PSD}/10)} + 10^{(\text{Ant 1 PSD}/10)} + 10^{(\text{Ant 2 PSD}/10)} + 10^{(\text{Ant 3 PSD}/10)}\}$ (dBm/10 kHz).

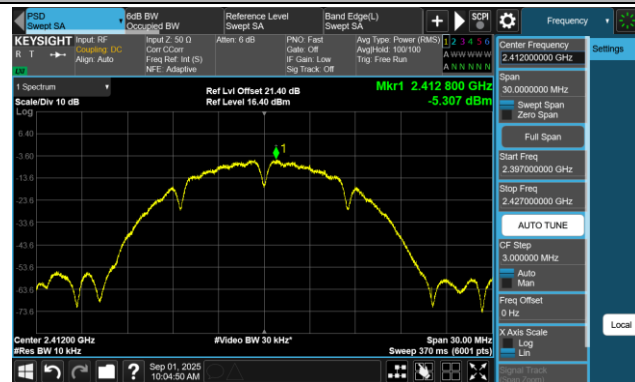
Duty Cycle < 98%, Total PSD (dBm/10 kHz) = $10 \times \log \{10^{(\text{Ant 0 PSD}/10)} + 10^{(\text{Ant 1 PSD}/10)} + 10^{(\text{Ant 2 PSD}/10)} + 10^{(\text{Ant 3 PSD}/10)}\}$ (dBm/10 kHz) + $10 \times \log (1/\text{Duty Cycle})$.

Note 2:

PSD Limit (dBm/3kHz) = 8 - (6.29 - 6) = 7.71 (dBm/3kHz).

802.11b - AVGPDS - Ant 0

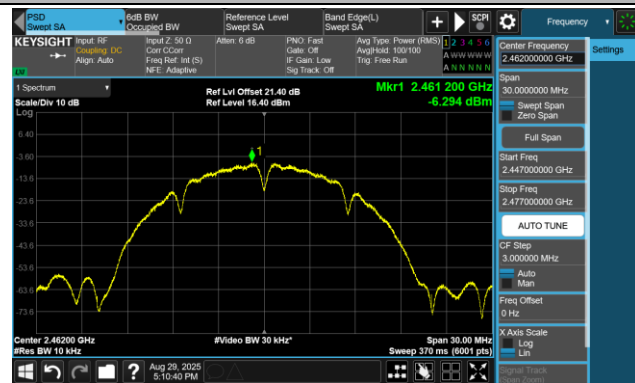
Channel 01 (2412 MHz)



Channel 06 (2437 MHz)

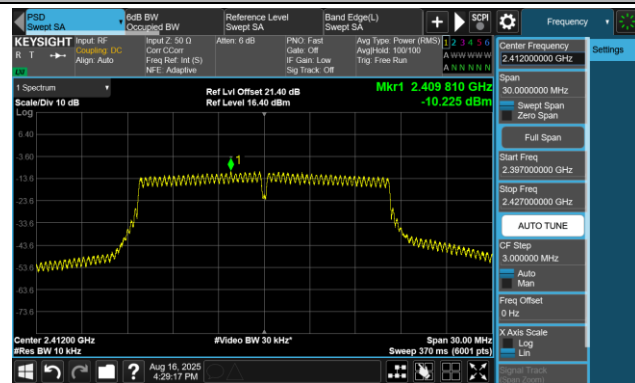


Channel 11 (2462 MHz)

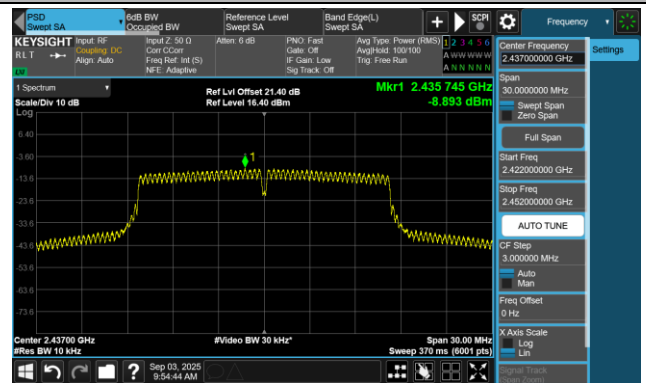


802.11g - AVGPDS - Ant 0

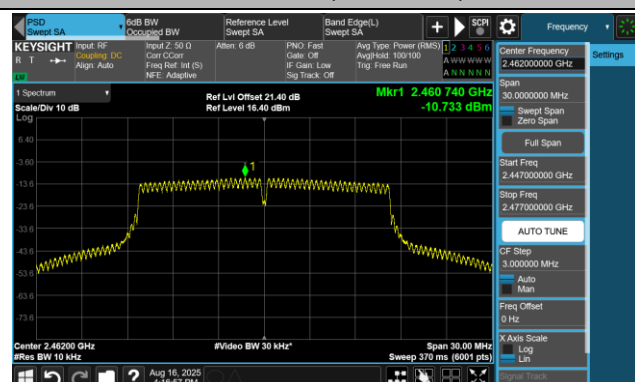
Channel 01 (2412 MHz)



Channel 06 (2437 MHz)

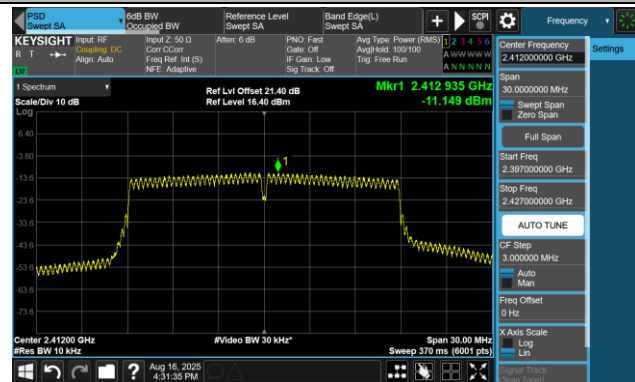


Channel 11 (2462 MHz)

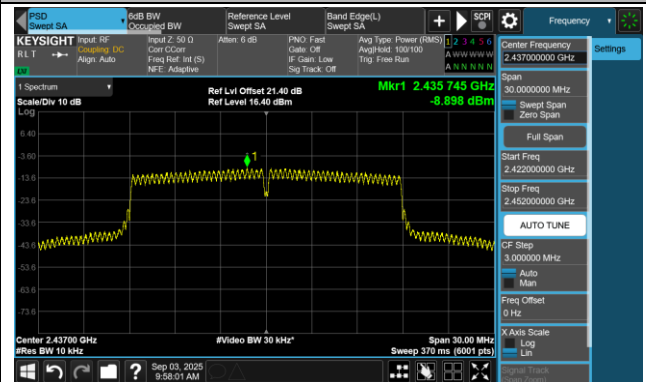


802.11n-HT20 - AVGPSPD - Ant 0

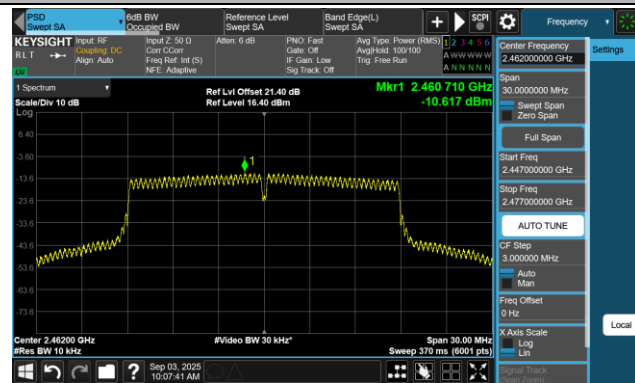
Channel 01 (2412 MHz)



Channel 06 (2437 MHz)

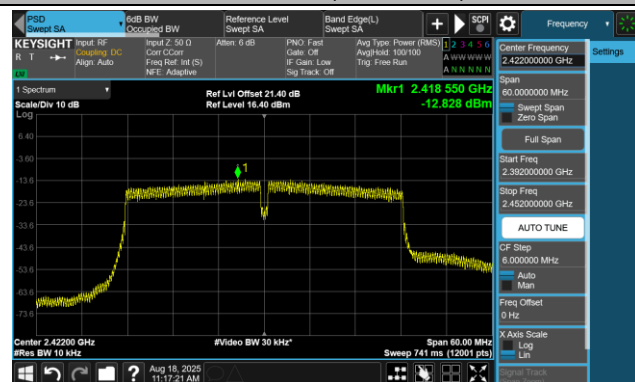


Channel 11 (2462 MHz)

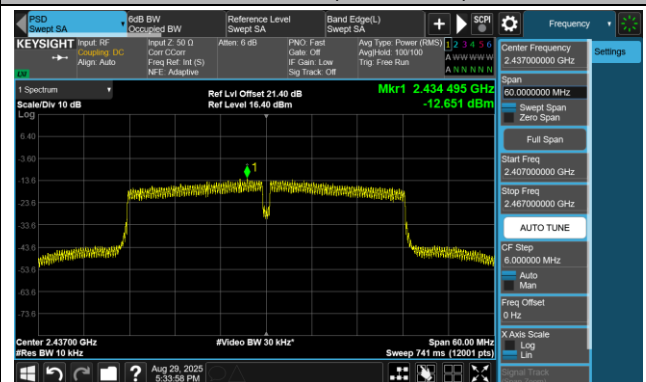


802.11n-HT40 - AVGPSPD - Ant 0

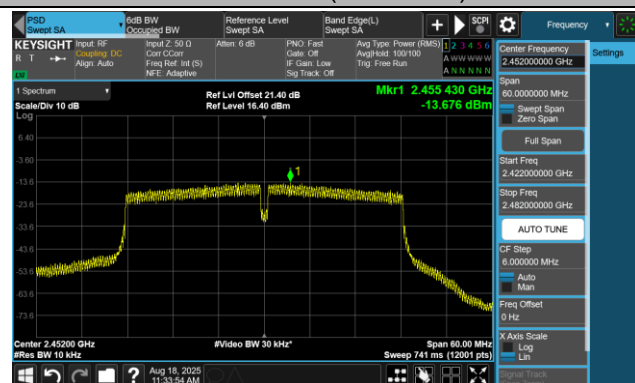
Channel 03 (2422 MHz)



Channel 06 (2437 MHz)

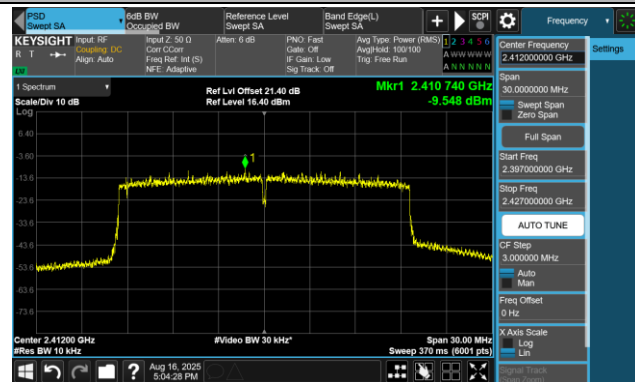


Channel 09 (2452 MHz)

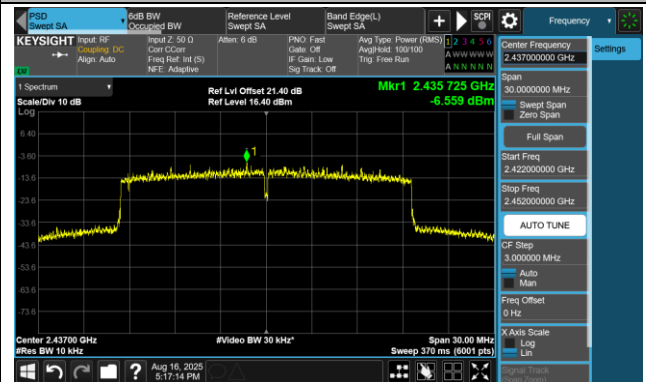


802.11be-EHT20 - AVGPSPD - Ant 0

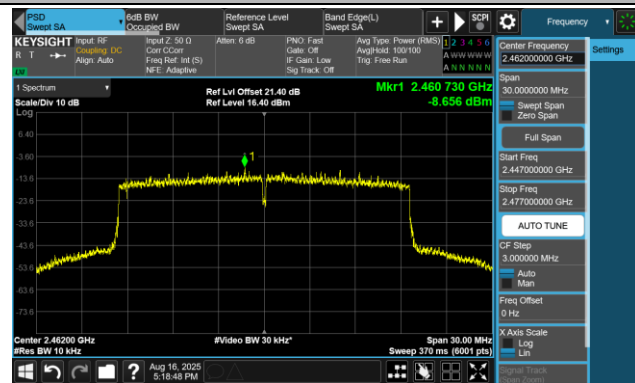
Channel 01 (2412 MHz)



Channel 06 (2437 MHz)

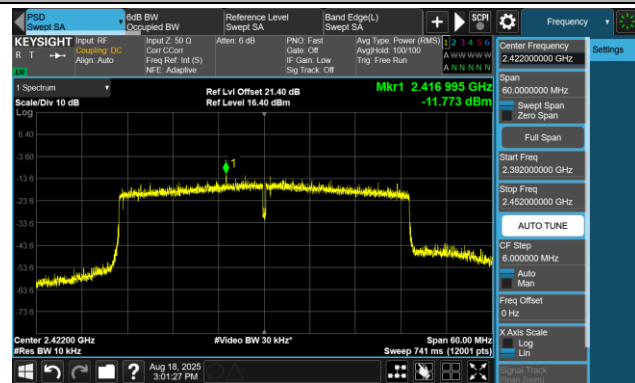


Channel 11 (2462 MHz)

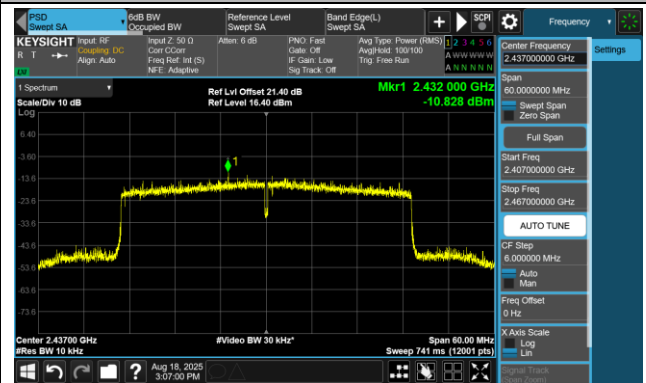


802.11be-EHT40 - AVGPSPD - Ant 0

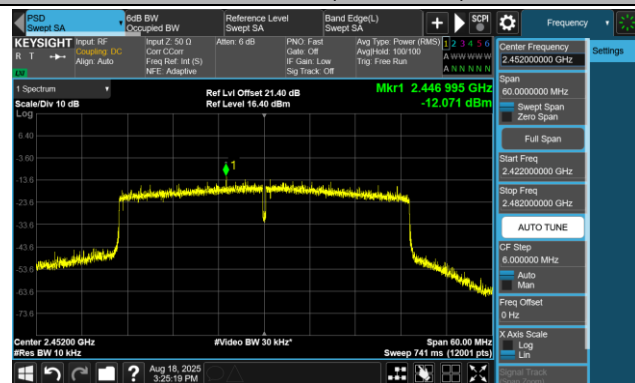
Channel 03 (2422 MHz)



Channel 06 (2437 MHz)

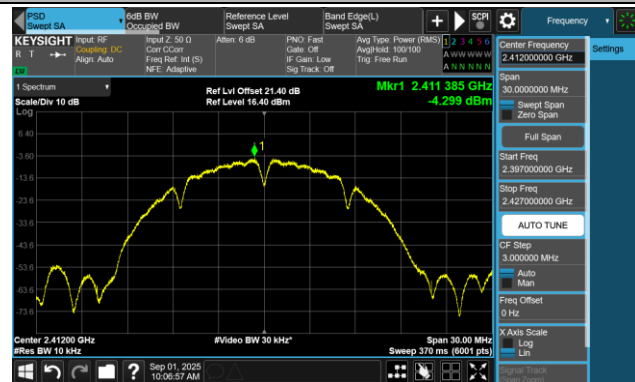


Channel 09 (2452 MHz)

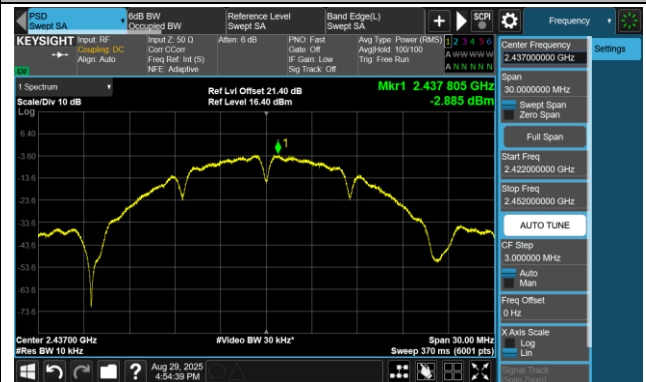


802.11b - AVGPDS - Ant 1

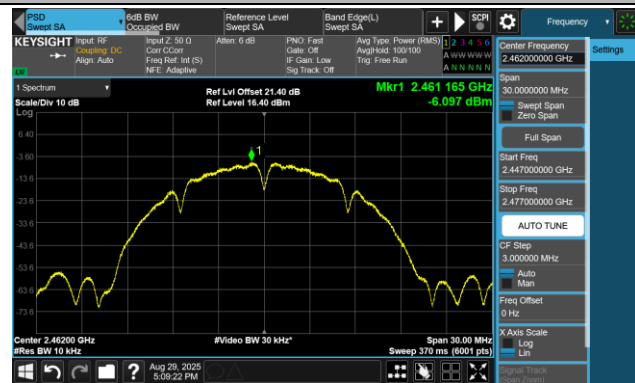
Channel 01 (2412 MHz)



Channel 06 (2437 MHz)

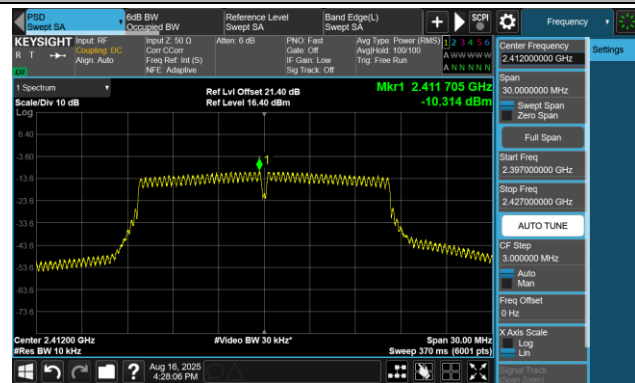


Channel 11 (2462 MHz)

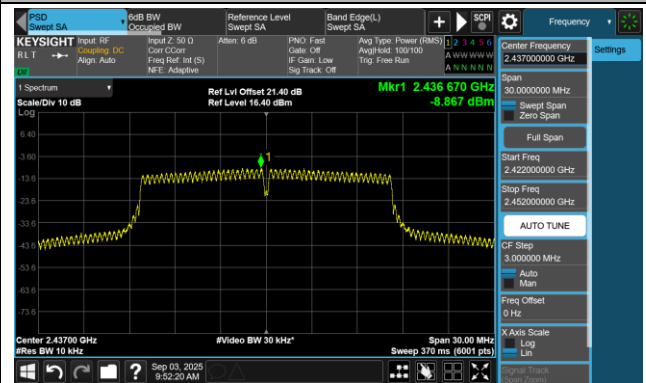


802.11g - AVGPDS - Ant 1

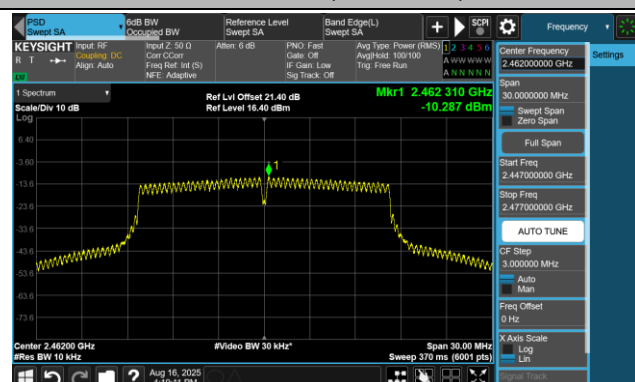
Channel 01 (2412 MHz)



Channel 06 (2437 MHz)

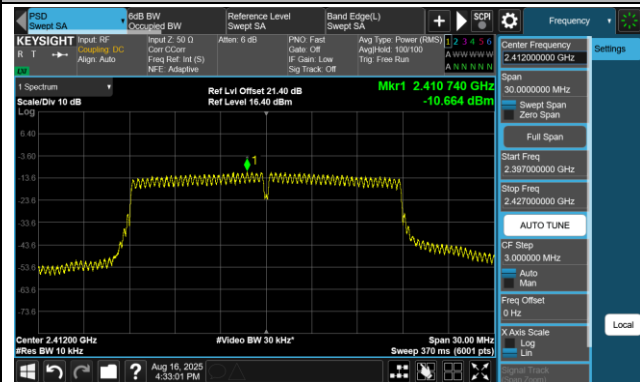


Channel 11 (2462 MHz)

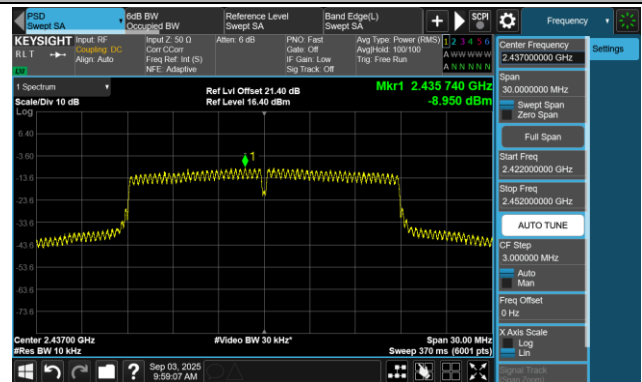


802.11n-HT20 - AVGPDS - Ant 1

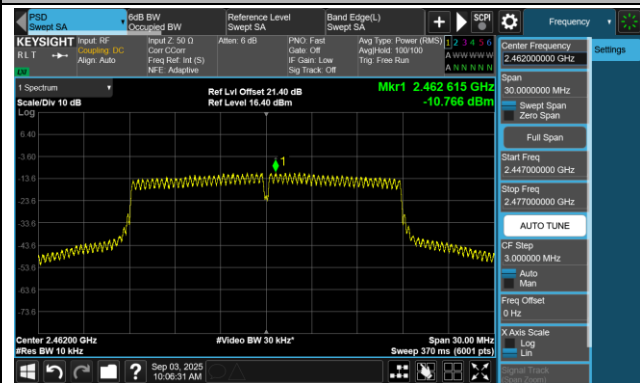
Channel 01 (2412 MHz)



Channel 06 (2437 MHz)

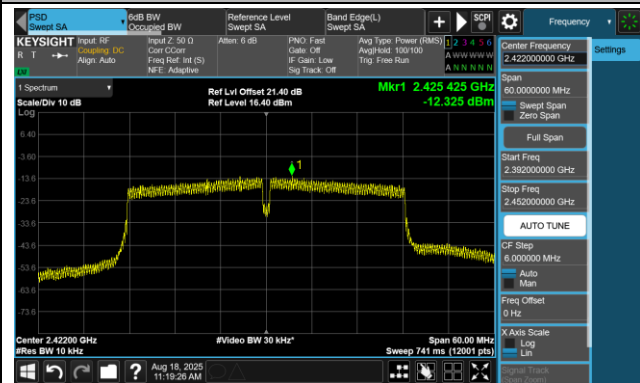


Channel 11 (2462 MHz)

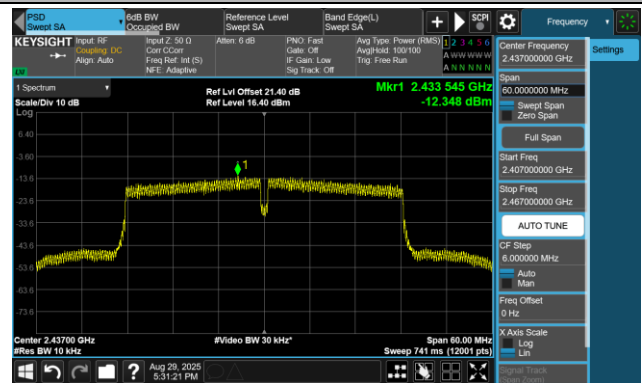


802.11n-HT40 - AVGPDS - Ant 1

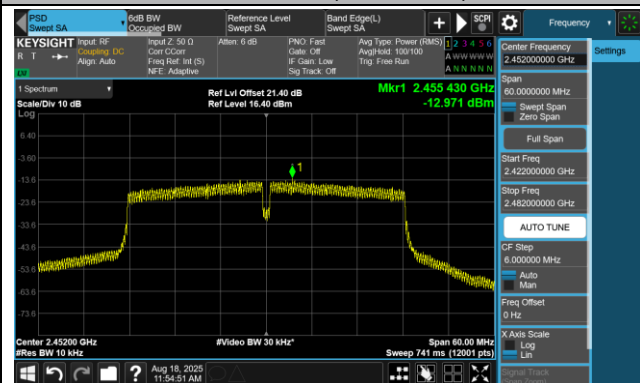
Channel 03 (2422 MHz)



Channel 06 (2437 MHz)

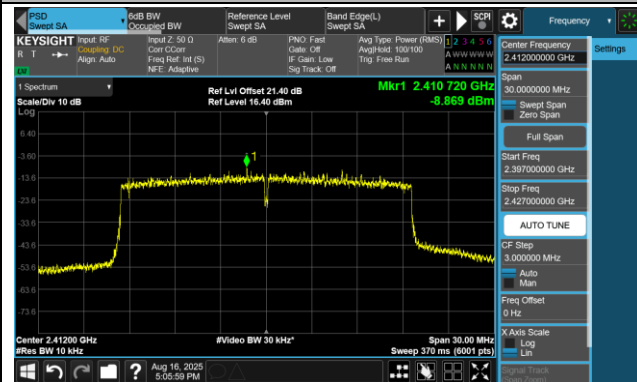


Channel 09 (2452 MHz)

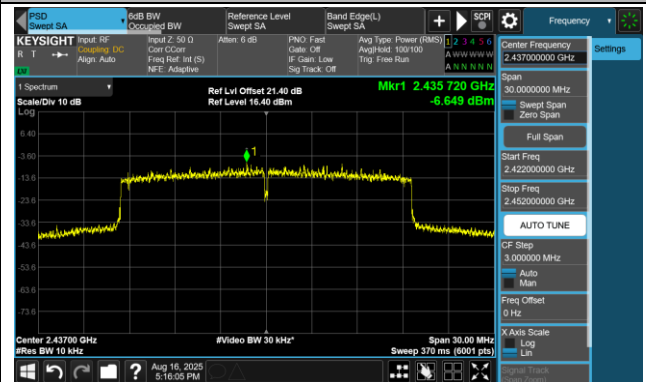


802.11be-EHT20 - AVGPSD - Ant 1

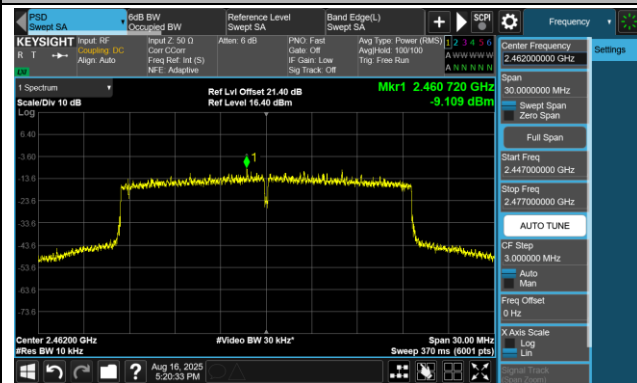
Channel 01 (2412 MHz)



Channel 06 (2437 MHz)



Channel 11 (2462 MHz)

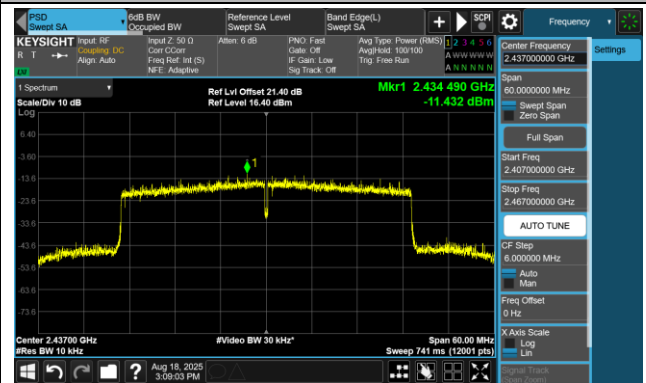


802.11be-EHT40 - AVGPSD - Ant 1

Channel 03 (2422 MHz)



Channel 06 (2437 MHz)



Channel 09 (2452 MHz)

